

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1 and 9 are currently being amended.

This amendment changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

In the Office Action, claims 1-3, 5, 7-9, 11, and 13-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Amero et al. (U.S. Patent No. 6,504,624), Ohta (U.S. Patent No. 6,897,978), and Itoyama et al. (U.S. Patent No. 6,488,353). Claim 1, as amended, recites that an image analyzing device comprises a storage section which stores image data obtained by processing reference chart data including a plurality of different patterns for sampling a plurality of different types of characteristic quantities indicating characteristics of a defective image, by using a device targeted for checking, an image analyzing section which samples different types of characteristic quantities of the plurality of patterns expressed in the image data stored in the storage section, and a phenomenon name specifying section which specifies a phenomenon name for classifying the defective image of a pattern region from among the plurality of patterns expressed in the image data, based on the different types of the characteristic quantities sampled by the image analyzing section.

As described in the specification of the present application, a reference chart, such as shown in FIG. 2 or FIGS. 4A-4C, includes a plurality of patterns for sampling characteristic quantities indicating characteristics of a defective image and is read by an image scanner targeted for checking. The image data read by the image scanner is stored in a memory. An image analyzing section 63 samples the characteristic quantity of each of the plurality of patterns expressed in the image data. Sampling of the characteristic quantities is hardly affected by a displacement between ideal image data and the above stored image data.

As shown in FIG. 7, a correlation table holding section 65 holds a correlation table, which associates each phenomenon name for classifying a defective image and the

characteristic quantities corresponding to the phenomenon name. Referring to the correlation table, a phenomenon name specifying section 66 specifies a phenomenon name of a pattern region in which the characteristic quantity is sampled by the image analyzing section 63 from among the plurality of patterns expressed in the image data.

Consistent with the present invention, a plurality of characteristic quantities of different types is sampled from the image data of a test pattern as shown in FIG. 6, and reference is made to a correlation table, such as FIG. 7, to specify the phenomenon name for classifying a defective image based on the sampled characteristic quantities of different types. *See, e.g.,* page 11, line 7, through page 14, line 11. As described on page 1, line 19, through page 2, line 3 of the specification, specifying of the phenomenon name of a defective image, for which the check time or check precision greatly depends on the skill of the service man, can be carried out automatically in a short period of time.

In the rejection, it is admitted that Amero does not disclose a label specifying section, but that Itoyama allegedly cures this deficiency. Itoyama discloses that test pattern image data is read out from a ROM 7, printed on a print medium, and read by a scanner 1 (col. 8, lines 57-61). Each pixel of the image data read by the scanner is compared to a threshold, such that a blank circle is placed in an image data table if the corresponding pixel is greater than the threshold, and a cross is placed in the image data table if the corresponding pixel is less than the threshold (col. 9, lines 3-14). If a cross is detected in the table, it is recognized that a defect exists (col. 9, lines 14-21). A blank line in the main scanning direction indicates a nozzle defect, a blank line in the sub scanning direction indicates a defect in the optical system, and a blank cross in the main and sub scanning directions indicates a defect in a nozzle and the optical system (col. 9, lines 22-47).

In contrast to claim 1, Itoyama fails to disclose or suggest a phenomenon name specifying section which specifies a phenomenon name for classifying the defective image of a pattern region from among the plurality of patterns expressed in the image data, based on the different types of the characteristic quantities sampled by the image analyzing section. Rather, Itoyama discloses that the same processing is done for each pixel to determine the same characteristics, i.e., by comparing density to a threshold to determine any defects in a

nozzle and/or the optical system. Itoyama thus fails to disclose or suggest classifying the defective image of a pattern region from among the plurality of patterns expressed in the image data, **based on the different types of the characteristic quantities** sampled by the image analyzing section. In other words, Itoyama performs processing based on only **one** characteristic quantity, not different types of characteristic quantities.

Like Amero and Itoyama, Ohta similarly fails to disclose or suggest a phenomenon name specifying section which specifies a phenomenon name for classifying the defective image of a pattern region from among the plurality of patterns expressed in the image data, based on the different types of the characteristic quantities sampled by the image analyzing section. Accordingly, even if combinable, claim 1 is patentably distinguishable from the combination of Amero, Itoyama and Ohta.

Claims 2-3, 5, and 7-8 are patentably distinguishable from the combination of Amero, Itoyama and Ohta by virtue of their dependence from claim 1, as well as their additional recitations. Claim 9 is patentably distinguishable from the combination of Amero, Itoyama and Ohta for reasons analogous to claim 1. Claims 13-21 are patentably distinguishable from the combination of Amero, Itoyama and Ohta by virtue of their dependence from claim 1, as well as their additional recitations.

Lastly, claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Amero, Itoyama and Ohta, and further in view of Allen et al. (U.S. Published Patent Application No. 2002/0180996). Like Amero, Itoyama and Ohta, Allen et al. fails to disclose or suggest a phenomenon name specifying section which specifies a phenomenon name for classifying the defective image of a pattern region from among the plurality of patterns expressed in the image data, based on the different types of the characteristic quantities sampled by the image analyzing section. Accordingly, even if combinable, claim 12 is patentably distinguishable from the combination of Amero, Itoyama, Ohta, and Allen et al. by virtue of its dependence from claim 9, as well as its additional recitations.

Applicant submits that entry of this Amendment is proper to allow Applicant to address the newly asserted reference Amero and because it should not require further search

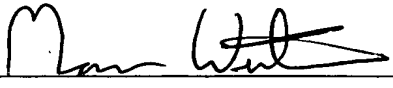
and/or consideration by the Examiner. Accordingly, Applicant requests entry of this Amendment and the allowance of the pending claims. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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